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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
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10/808,619

03/25/2004

Fuyuki Okamoto

17566

6078

23389

7590

05/22/2006

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EXAMINER

FLANAGAN, KRISTA M

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary

Application No.

10/808,619

Applicant(s)

OKAMOTO, FUYUKI

Examiner

Krista M. Flanagan

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. In view of the amendment filed on 03 March 2006, the Examiner withdraws all objections to the drawings from the previous Office Action.

Claim Objections

2. In view of the amendment filed on 03 March 2006, the Examiner withdraws all objections to the claims from the previous Office Action.

Claim Rejections - 35 USC § 112

3. In view of the amendment filed on 03 March 2006, the Examiner withdraws all 112 rejections from the previous Office Action.

Response to Arguments

4. Applicant's arguments with respect to claims 1-5 and 7-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 5 and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by US

Patent Application No. US2003/0184378 A1 to Segawa.

7. Regarding claims 1, 2, 5 and 7 Segawa discloses a differential amplifier having two resonant circuits (25 and 24) each with an inductor (25_1 and 24_1) and a capacitor (25_2 and 24_2) connected between two potentials, VDD and current source 21 and ground via NMOS transistors (23 and 22) with complementary inputs IN- and IN+ as disclosed on page 4, paragraphs 0080 and 0081. The circuit has two output terminals (OUT- and OUT+), which output signals from each of the corresponding resonant circuits (OUT-: 25 and OUT+: 24). NMOS transistors (23 and 22) are connected between the parallel resonant circuits and constant current source (21). Amplified signals of the complementary signal IN- and IN+ are output to the output terminals. Segawa discloses resonant circuits with active inductors (25_1 and 24_1) that comprise capacitors (C_L), which can be varied. Inherently, by changing the capacitance the impedance frequency characteristics will be adjusted. It is also well known in the art to substitute varactor diodes in place of variable capacitances.
8. Regarding claims 3 and 8, Segawa discloses a differential amplifier circuit where transistor 23 drain is connected to the output, source is connected to ground through current source 21 and gate is connected to input. Transistor 22 is connected similarly.
9. Regarding claims 4 and 9, Segawa fails to disclose a bias transistor which using a bias voltage at a fixed value to provide a fixed current however Segawa does disclose a constant current source, 21 to provide a fixed current. It is well known in the art to use a transistor with the gate biased, source connected to ground and drain connected to a differential pair to provide a constant current source.
10. Regarding claims 10 and 11, Segawa discloses a differential amplifier for use on a semiconductor chip on page 4, paragraph 0082, in lines 6-10.

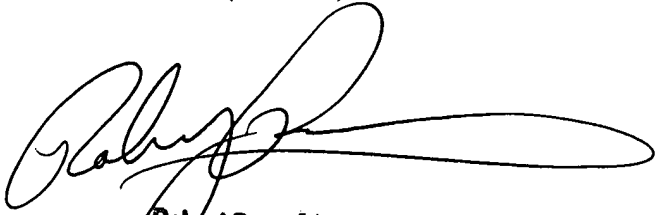
Allowable Subject Matter

11. Claims 12 and 13 allowed.
12. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krista M. Flanagan whose telephone number is (571) 272-2203. The examiner can normally be reached on Monday - Friday, 8 - 4:30.
14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (571) 272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K. Flanagan
20060513


Robert Pascal
Supervisory Patent Examiner
Technology Center 2800